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## FACULTY OF BUSINESS AND MANAGEMENT
FAKULTA PODNIKATELSKÁ

## INSTITUTE OF MANAGEMENT
ÚSTAV MANAGEMENTU


# PROPOSAL FOR THE DEVELOPMENT OF COMPETITIVENESS OF SMALL COMPANY
NÁVRH ROZVOJE KONKURENCESCHOPNOSTI MALÉHO PODNIKU

**BACHELOR'S THESIS**
BAKALÁŘSKÁ PRÁCE


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# Specification Bachelor's Thesis

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Pursuant to Act no. 111/1998 Coll. concerning universities as amended and pursuant to the BUT Study Rules, by the Director of the Institute, you have been assigned a Bachelor's Thesis entitled:

## Proposal for the Development of Competitiveness of Small Company

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Introduction
Goals of thesis and methods
Theoretical review of problem
Analysis of contemporary situation
Proposal of solution
Conclusion
References
Appendixes

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**Basic sources of information:**

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**Abstrakt**

Tato práce navrhuje konkurenční strategii včetně strategie rozvoje konkurenčních výhod pro novou servisní firmu na českém trhu. Návrh je založen na aktuální situaci na trhu a potřebách zákazníků s ohledem na možnosti nové firmy. Pro vybranou strategii byl vytvořen Business Model Canvas a Value Proposition Canvas. Výsledek práce by mohl posloužit jako podklad pro tvorbu strategie firmy plánující vstoupit na tento trh.

**Abstract**

This thesis proposes a competitive strategy and development of competitive advantages for a new elevator maintenance company on the Czech market. The proposal is based on the situation on the market, customer needs, and with respect to the possibilities of a new company. The selected strategy is designed by Business Model Canvas and Value Proposition Canvas. The result of the thesis could help as a base for the competitive strategy for a company to enter this market.

**Klíčová slova**

konkurence, konkurenční strategie, konkurenční výhoda, business model, hodnotová nabídka

**Keywords**

competition, competition strategy, competitive advantage, business model, value proposition

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**Čestné prohlášení**

Prohlašuji, že předložená bakalářská práce je původní a zpracoval jsem ji samostatně. Prohlašuji, že citace použitých pramenů je úplná, že jsem ve své práci neporušil autorská práva (ve smyslu Zákona č. 121/2000 Sb., o právu autorském a o právech souvisejících s právem autorským).

Dne 16. května 2021

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Josef Kudera

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# Table of content

# Introduction

The topic of this thesis is a proposal for the development of competitiveness of a new small company. The company will focus on services of elevators in the Czech Republic.

The elevator industry is older than 100 years. Over history, there were a lot of mergers and acquisitions, changes in requirements, and technological progress. Now there is a big gap between market leaders and small companies or independent self-traders. I believe that this fact makes a gap on the market for a new company, which can focus directly on the narrow segment of the industry.

This industry is dominated by a few global players. (Otis, 2021, p. 8) Those big companies are producing a broad spectrum of new equipment as well as providing maintenance in most countries of the world. On the other hand, there are also small companies, usually providing services only in a small region and often specialising either only on production or only on maintenance. A common strategy of big players is to broaden their maintenance base by acquiring competitors when they have interesting sizes. (KONE, 2021) Because the market is already saturated, a small company in the start has to use its limited resources as effectively as possible. I will explore some possible competitive strategies and possibilities to develop some competitive advantages for a new company. From multiple possible strategies, I will choose one, which I will explore in detail and propose the value proposition as well as the whole business model for a company.

I decided to prepare a plan for a new company to enter the market and successfully develop its service portfolio in the Czech Republic. Thanks to the identification of the current state of the market and strategies of significant competitors, important aspects for defining competitive strategies and developing competitive advantages could be taken into consideration.

Because the market is not static and evolves in time, as well as the existing competitors can adjust or completely change their strategies, it would be necessary to keep track of the changes in the industry and once in a while assess if the current strategy is still relevant and if necessary, change the company's strategy.

# 1. Goals and methods

## 1.1. Goal

The goal of this thesis is to propose a competitive strategy for a small company on the basis of a comprehensive analysis of the elevator and escalator industry and on the basis of an analysis of competitive strategies of leading companies.

The goal of the theoretical part is to introduce terms, concepts, and tools essential for this thesis. Mainly I will work with concepts of competition strategy, competitive advantage, business model, and value proposition.

The goal of the analytical part is to identify the current state of the market and examine the competitive strategies of competitors from different categories.

The goal of the proposal part is to describe possible competitive strategies, evaluate their suitability, and deeply elaborate one chosen strategy for a new company including a fully described business model canvas and value proposition canvas.

## 1.2. Methods

### 1.2.1. SLEPT analysis

The aim of SLEPT is to analyse factors of the external macro-environment that have an influence on the organisation or industry as a whole. The analysis can be focused on factors influencing the whole organisation, division, or even only one product category. It is working with categorising of external factors into social, legal, economic, political, and technological categories. We can also encounter other variants, which are based on the original 5-factor framework which works with more categories of factors. Those are also working with environmental or ethical factors. Outputs of SLEPT analysis can be used as a source of data for an external part of SWOT analysis. (Sammut-Bonnici, Galea, 2015) I decided to use SLEPT analysis as a tool for analysing the external environment, and the results will help me to design a viable competitive strategy.

### 1.2.2. SWOT analysis

Although according to Madsen (2016) the history of SWOT analysis is uncertain, and we cannot clearly trace its origin, it is one of the most commonly used tools for strategic management. It provides a framework for analysing internal factors like strengths and weaknesses, and external factors as opportunities and threads. Because of its relative

simplicity and high value for comparing organisations as well as for planning strategies, I decided to use it as one of the tools for analysing existing competitors, and also for defining competitive strategy.

### 1.2.3. Business Model Canvas

Business Model Canvas (Osterwalder, Pigneur, 2010) is a tool for visualisation of the company business model - how an organisation works - how creates, delivers, and captures its values. I will use it in the analytical part for analysing and comparison competitor's business models, and also in the design part, for the proposal of competitive strategy for a new company. I chose this tool because I appreciate the complex view of the organisation and the elaboration of the tool, while still maintaining user-friendliness.

### 1.2.4. Value Proposition Canvas

Value Proposition Canvas (Osterwalder et al., 2014) is a tool for a more detailed analysis of customer needs and designing value propositions for those needs. In the analytical part I will use it for analysing and comparison competitor's value propositions, and in the proposal part for designing a value proposition for a new company. It was necessary to explore value propositions in an analytic part and in the design of the strategy for a new company in proposition part above the range of Business Model Canvas. I chose the value proposition canvas because of its close connection to the Business model Canvas and user-friendliness as well.

## 1.3. Sources of data

As a source of data, besides the literature and online resources, I am using information primarily publicly available at companies' websites, their public communication via other channels and documents as annual reports and other communication focused mainly on the investors of companies. Also, I led the interview with the stakeholders from the medium company to gain insight into their business model. For the proposed competitive strategy for a new company, I led interviews with customers and suppliers on the market to get better insight and validate my assumptions and get feedback for my proposal.

# 2. Theory

## 2.1. Market and competition

A market is a group of sellers and buyers who are determining the price of a product or service by their transactions or potential transactions. Markets can be divided into competitive and noncompetitive. There are many sellers and buyers on the perfectly competitive market. That is the reason why the individual subject, whether seller or buyer, has a minimal to zero influence on the price of the product or service. An example of such a market, that is usually close to perfectly competitive one, can be agricultural commodities, where are many producers and many buyers. (Pindyck, Rubinfeld, 2018)

The competition from the supplier side of the market is an effort of the companies to attract more buyers. For such a competition, the companies can use price, nonprice, or both aspects of their products to be more appealing to the customers. (Pindyck, Rubinfeld, 2018)

## 2.2. Industry and industry segmentation

As an industry, we can understand a part of the market, as well as a group of companies that are producing similar products, or products targeting similar needs of the buyers. The boundaries of the industry in terms of a range of products or geographical locations are not clearly defined and can vary. (Porter, 2004a)

Typically, there are many different producers and buyers in the industry, and we can categorise them into distinct segments. The segments can be based for example on product varieties and their properties, or on buyers and their needs, geographical location, or type of buyers. (Porter, 2004b)

## 2.3. Strategic management

Strategic management aims to define and pursue goals based on the vision and mission of the company and design and implement strategies how to achieve the goals. That is the reason, why the company before an application and even before designing its strategy should start with defining its vision, its mission, and goals. (Edwards, 2014)

The vision describes the intended state of the company in the future, while the mission describes the identity of the company at that moment based on the reasons for the existence. Goals should clearly define the direction of development for operational

activities. Besides the harmony of the goal with the vision and mission, the goal should have the attributes known as SMART. This acronym stands for specific, measurable, achievable, realistic, and time-bound. (Edwards, 2014)

## 2.4. Competitive strategy

According to Porter (2004a), the aim of competitive strategy is to defend a position against all five competitive forces: suppliers, industry competitors, buyers, potential entrants, and substitutes. This aim can be pursued by the following approaches:

**Positioning** is about finding the optimal ways of operation and areas where to compete successfully, use a company's own strengths and avoid the necessity of confronting weaknesses. In other words, positioning is a defensive strategy to find the best position where the competing forces are the weakest without influencing them significantly.

**Influencing the balance** is the offensive strategy whose objective is to change the existing forces on the market and gain an advantage for the company.

**Exploiting change** is the third approach that can bring a significant advantage. If the company is able to predict the future evolution of the industry and react to it better than its competitors, it can build a stronger competitive position. (Porter, 2004a, pp. 29–31)

### 2.4.1. Generic strategies

Even though each industry and each company are unique to a certain extent, therefore using different strategies to compete, at the broadest level strategy can be viewed as one of the generic. Porter defined three generic strategies:

**Overall cost leadership** is about gaining the advantage by bearing lower costs than competitors, sources of this advantage can be wide - for example, by the management of cost-minimalisation or economy of scale. Thanks to this strategy, a company can earn higher margins or offer better prices than competitors.

**Differentiation** is the strategy that aims the attention to creating a unique product thus allows a company to sell products with higher margins. Such differentiation can be made in one or more different ways for example as technology, distribution, or branding.

**Focus** strategy is about focusing on a particular sub-market defined for example by specific products, customer segments, or geographic locations. Such narrow

specialisation allows gaining an advantage by lower costs or differentiation for sub-market.

Because each strategy requires different resources and ways of organisation, to achieving success it's necessary to focus on one primary strategy and avoid being stuck in the middle. Being stuck in the middle is a very unfavorable situation because a company cannot satisfy either price-sensitive segments or customers seeking differentiated products. (Porter, 2004a, pp. 34–46)

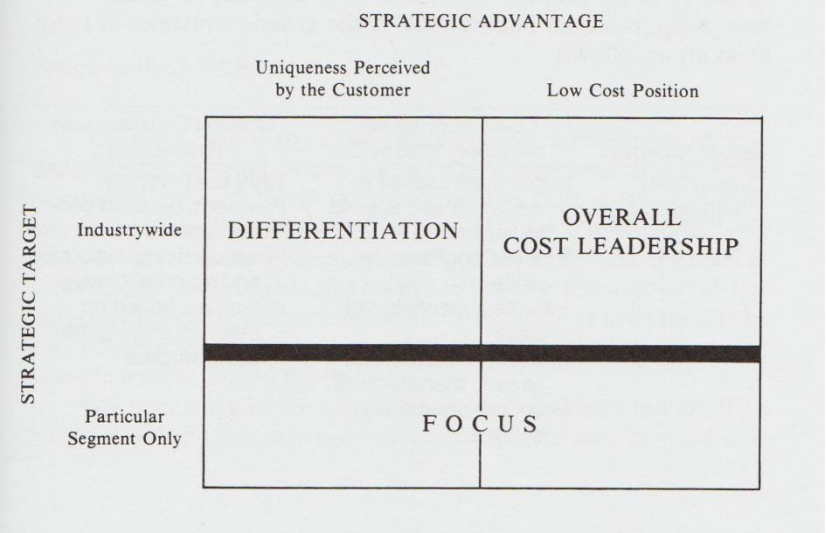



***Figure 1: Generic Strategies*** *(Source: Porter, 2004a, p. 39)*

### 2.4.2. Competitive dimensions

Competitive dimensions are the attributes where the company can base its competitive strategy and differentiate itself. Typical examples of such dimensions can be a level of specialisation from narrow to wide, a channel selection from own to foreign channels, a product quality, a vertical integration, a cost position, or a price. Used and useful dimensions vary depending on the industry. (Porter, 2004a) Although the author describes 13 usual dimensions, I chose only 6 which are crucial in the elevator industry according to the interviews with customers as well as medium companies.

### 2.4.3. Strategic groups

Strategic groups are groups of companies, which have the same or similar competition strategy in the industry, for example the product differentiation or marketing approach. A similar competition strategy can be caused by similar strengths and weaknesses, or for example by similar time of the entrance on the market. We can usually identify multiple strategic groups of companies on the market. In some industries all competitors can have either the same strategy and be in one strategic group, or in the other industry can each competitor have a different strategy and its own group (Porter, 2004a)

Strategic groups in an industry can be visualised on a chart, where is a competitive dimension on each axis relevant for the industry and distribution of particular strategic groups. (Porter, 2004a)

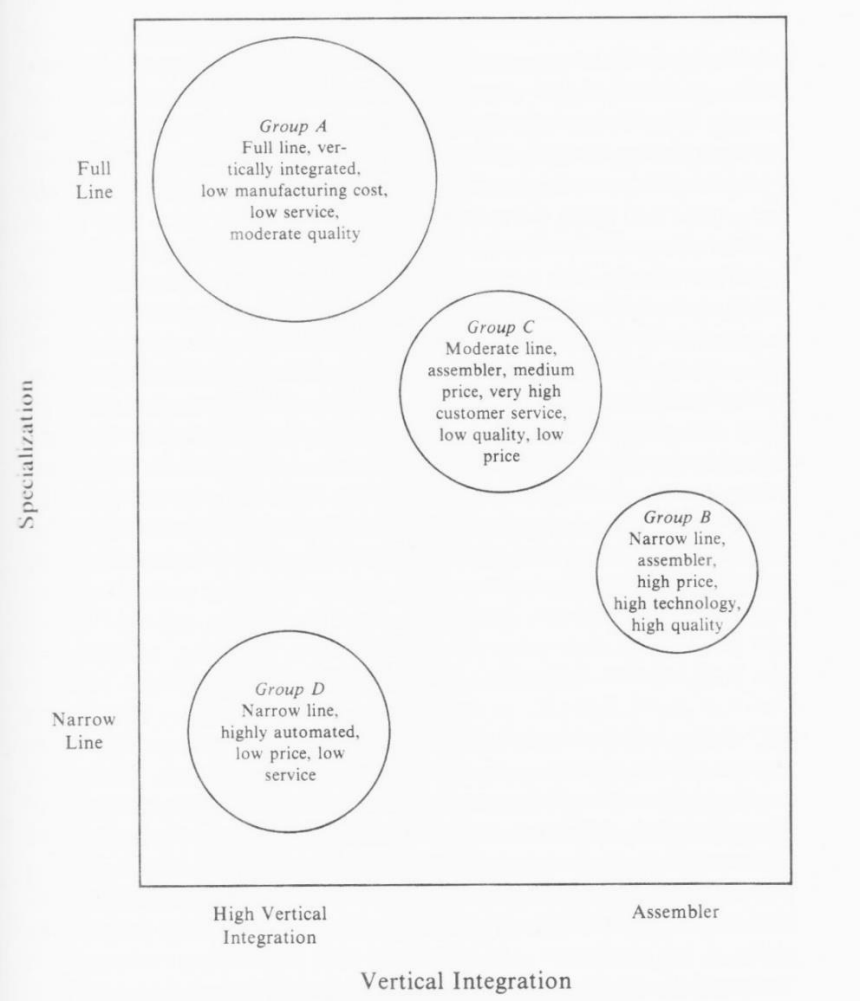



***Figure 2: Example of Strategic Groups*** *(Source: Porter, 2004a, p. 131)*

## 2.5. Business model canvas

The business model canvas is a tool designed for designing and visualising the business model of a company. (Osterwalder, Pigneur, 2010) The canvas has four groups of nine building blocks that are mutually connected.

- Infrastructure – partners, activities
- Offer – value proposition
- Customers – customer segments, channels, customer relationships
- Finance – revenue streams, cost structure

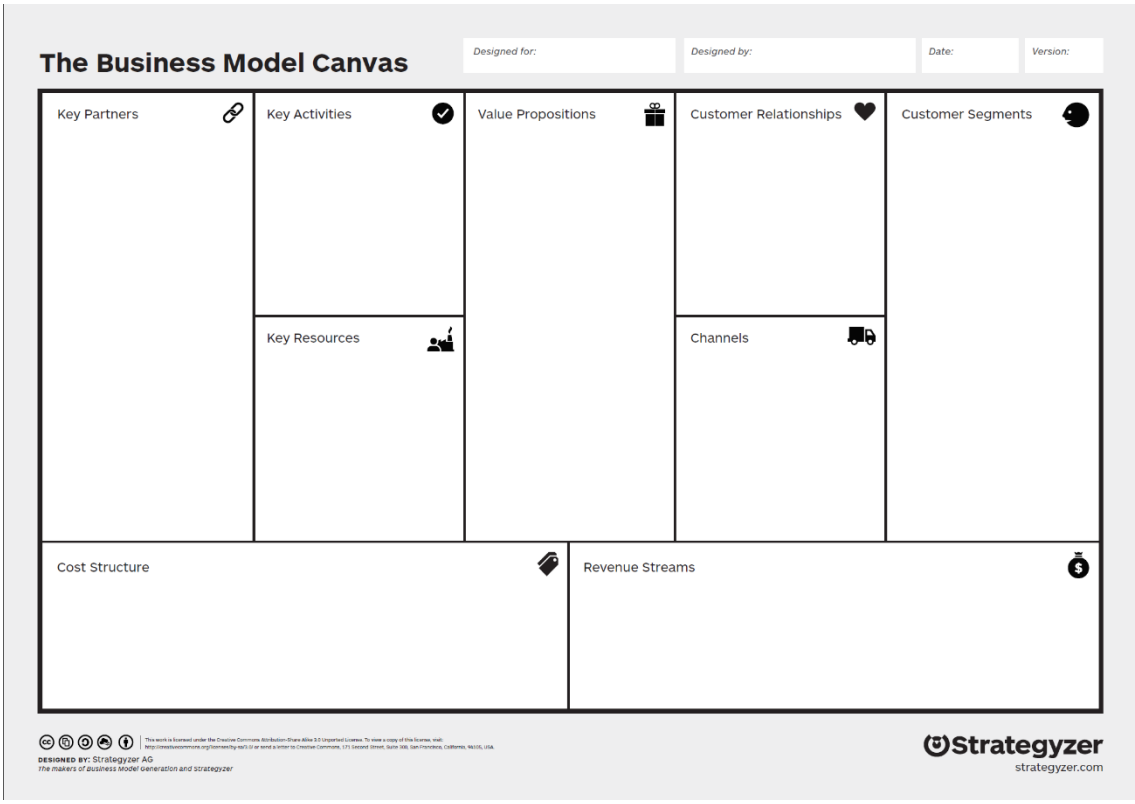



***Figure 3: Business model canvas template*** *by Strategyzer AG based on the Business model generation (Osterwalder, Pigneur, 2010)*

Individual blocks are described in the order as in the book Business Model Generator (Osterwalder, Pigneur, 2010) and how it is suggested to fill the canvas.

**1. Customer segments** define the group of customers where the organisation will deliver products. It can be only one segment consisting of one group of customers or more segments if the company wants to serve customers with different needs or other specifications.

**2. Value propositions** describe products that have values for the customer – which solves the problem or fulfils their needs. Some aspects of the value propositions can be based on those aspects: newness, performance, customisation, design, brand, price, cost reduction, risk reduction, accessibility, convenience.

**3. Channels** describe the means that we use to communicate with customers, how we distribute the product, or how we provide post-purchase support.

**4. Customer relationships** describe how we want to build and keep relationships with customers. The author lists those categories of customer relationships:

- *Personal assistance* – human interaction can be either physical or even remote for example via email or phone.
- *Dedicated personal assistance* – as opposed to previous, the customer has a dedicated person, who can help or serve them.
- *Self-service* – providing everything that is necessary that the customers can serve themselves.
- *Automated services* – a fusion of self-service with automated processes which can improve user experience significantly. In some cases, it can be close to personal assistance.
- *Communities* – building communities help the company to better understand customer needs.
- *Co-creation* – customers participate in the creating of values for other customers.

**5. Revenue streams** describe how the company obtains revenue. It can be either one-time transactions or recurring payments. There are mentioned those revenue streams in the book:

- *Asset sale* – an easy sale of ownership right to a physical product.
- *Usage fee* – customers are paying for the use of a product or consumption of service - for example hotel services.
- *Subscription fees* – payment for access to use something often without the regard of amount. Examples can be streaming services Spotify or Netflix.

- *Lending/renting/leasing* – payment for rights to using an asset for a particular time for a particular fee. A very common example is the leasing of cars, recently also the leasing of hardware has become very popular.
- *Licensing* – customers are paying for permission to use intellectual property. An example can be licensing of software for end-users, or books for publishers.
- *Brokerage fees* – payment for intermediation services between more participants. An example is a percentage for credit card providers or provision for the real-estate agency. *Advertising* – payment for placement of an advertisement. For example on an event or in media.

Each stream can have different pricing mechanisms which can be either fixed or dynamic. Dynamic prices are changing due to the market conditions on the other hand fixed pricing depends on the price list.

**6. Key resources** describe the most important assets for creating and delivering value as well as for earning revenue. There are listed those categories of key resources:

- *Physical* – tangible assets as buildings, vehicles, or machines.
- *Intellectual* – intangible resources as brands, know-how, patents, or partnerships.
- *Human* – employees are very important for a company.
- *Financial* – financial resources are especially for some business models crucial, but to a certain extent they are influencing every business.

**7. Key activities** describe actions that are necessary to perform for the business model to work successfully. Activities can be in those categories:

- *Production* – activities of designing and manufacturing product.
- *Problem-solving* – activities of creating solutions for particular problems or needs of individual customers. An example can be hospitals or consulting companies.
- *Platform/network* – activities to ensuring working of platform or network which is a part of business model. An example can be Facebook or trade fairs.

**8. Key partnerships** describe which partnerships are important for a business model. There are four different types of partnerships: strategic alliances, coopetition, joint ventures, buyer-supplier. The different motivations for creating partnership can be the following:

- *Optimisation and economy of scale* – partnership with the aim to reduce costs by the outsourcing of some activities or sharing resources.
- *Reduction of risk and uncertainty* – by forming strategic alliances companies can reduce risk - this is common especially among technology companies.
- *Acquisition of particular resources and activities* – by forming a partnership company can gain access to some resources like technology, license, or access to the distribution channel.

**9. Cost structure** describes necessary costs for creating and delivering value. Focus on the costs is more important for cost-driven businesses than for value-driven ones. The basic division of costs can be fixed and variable. (Osterwalder, Pigneur, 2010)

## 2.6. Value Proposition Canvas

Value Proposition Canvas is a tool related to business model canvas and it focuses deeply on two building blocks from the Business Model Canvas: a value proposition and customer segments. (Osterwalder et al., 2014) This tool is designed for helping with finding products and customer needs fit.

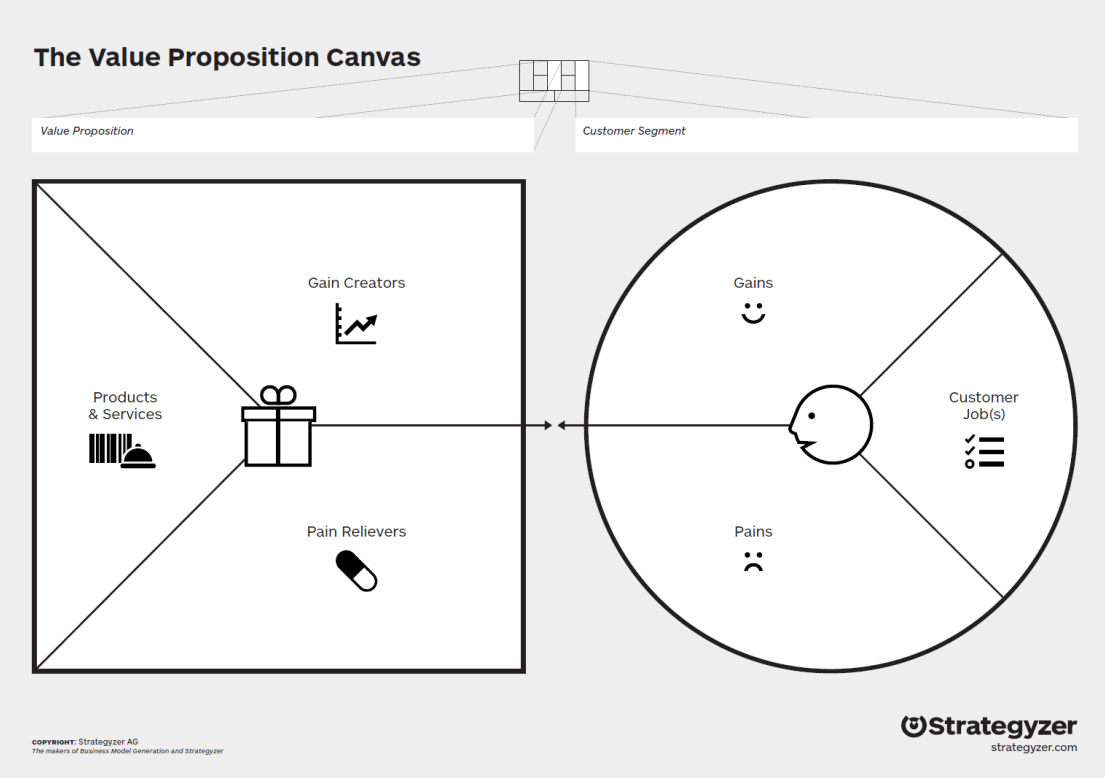



***Figure 4: Value Proposition Canvas*** *template by Strategyzer AG based on the Value Proposition Design (Osterwalder et al., 2014)*

Value proposition canvas divides the customer segment block from Business Model Canvas, which is here called as the customer profile, into three parts: gains, pains, and customer jobs. The value proposition block is also divided into three segments: gain creators, pain relievers, and products and services. The tool was introduced in the book Value Proposition Design (Osterwalder et al., 2014) and each part is defined in this way:

**Customer profile**

- Customer jobs – describe the things which customers need to do or achieve. It can be divided into four segments:
    a) Functional jobs – a specific job that aims to solve a specific problem. Repairing a car can be an example of such a job.
    b) Social jobs – jobs for improving how the customer looks. It can be about building status. The status can have multiple ways – someone wants to look like a creative person, someone as a professional.
    c) Personal/emotional jobs – when a customer wants to feel somehow. For example happy or secure.
    d) Supporting jobs – indirect jobs which can sometimes be part of a customer purchasing cycle. Those jobs can be further divided into three categories depending on the role of a customer. First associated with a buying of product, for example comparing multiple offers or delivery of a product. Second, as a co-creator of value, an example can be the customisation of shoes by own design. The third one is a transferring of value - it can be selling a used product or recycling it.

    Not all customer jobs have the same importance - we should determine their importance from insignificant to important.

- Pains – what annoys the customer when trying to get a job done? It can be not only during the job directly, but also before or after. Sometimes it can even prevent the customer to get the job done, other times it can cause bad outcomes. We can identify three types of pains:
    a) Undesired outcomes, problems, and characteristics – this can be different depending on which job is springing. Functional pains when the product does not work perfectly, or that the solution has negative side effects. Emotional

pains when the customer feels undesired feelings. And ancillary pains can be for example problems with the availability of store.

b) Obstacles – what are the things which are preventing starting the job or slowing it down?
c) Risks – when and how can something bad happen.

The pains should be evaluated by their severity from moderate to extreme.

- Gains – which outcomes the customer requires, expects, or desires? Or which can they be surprised by? Gains can spring from functional, social, or emotional areas, or it can be cost savings. Gains should be evaluated by their relevance from nice-to-have to essential.

**Value proposition**

- Product and services – list of all products and services which the company is providing. The aim is usually that those products should be relevant with the jobs which customers need to get done. Also, all products can be evaluated by their relevance from nice-to-have to essential.
- Pain relievers – how the products and services mitigate the pains?
- Gain creators – how the products and services are creating benefits?

## 2.7. Critical literature review

Important terms for the thesis and their sources are following: market and competition (Pindyck, Rubinfeld, 2018), industry and its segmentation (Porter, 2004a), (Porter, 2004b), and strategic management (Edwards, 2014). The following parts of the thesis build mainly on the knowledge from:

Porter (2004a), for a competitive strategy, generic strategies, competitive dimensions, and strategic group. The advantages of those tools and approaches are that they are very complex, and their usage is universal. On the other hand, after the initial idea to use also value chain Porter (2004b) as a tool for assessing existing firms, I could not use it due to the limited access to the necessary internal information. Porter's work I see as very valuable and timeless, although I must admit that reading was challenging for me.

Business Model Canvas (Osterwalder, Pigneur, 2010) and Value Proposition Canvas (Osterwalder et al. 2014) are very appealing tools as well publications, which place more

emphasis on practice and examples than on theoretical concepts. Both canvases are well applicable for existing organisations, business units or products, as well as for new companies or ideas. Both books are readable, and the authors provide a large amount of supporting materials and audiovisual content.

I believe that the combination of those different tools can be useful for this thesis as well for other cases.

# 3. Analysis of the current state

The aim of this part is to identify all important aspects of the environment, where the new company will operate on.

The first is the SLEPT analysis of the general external environment, with the focus on trends and factors, which have or may have a direct or indirect influence on the company as well as competitors in the elevator industry.

The second part is about the elevator industry as a whole, a brief overview of important milestones in the industry history, and a description of the current state.

The third part focuses on the customers and analyses their needs via customer profile from Value Proposition Canvas.

The fourth part describes and analyses competitors, three global companies that we can find on the European as well as on the Czech market, and medium Czech company providing services in a smaller region. In this part, I use Business Model Canvas and Value Proposition Canvas for analysing their business models and their value propositions.

In the last part, I work with the results of individual analyses, and I outline possible competitive strategies for a small company.

## 3.1. SLEPT analysis

Although the market can be divided into two categories: elevators and escalators, I decided to analyse it altogether for very similar sensitivity to external factors. Also the companies producing and maintaining escalators are usually active on the elevator market (does not apply the other way around). Thanks to the European Single Market offering free movement of goods, services, people, and capital, many companies are present in more countries. By continuing integration as expanding the eurozone, and harmonisation of law, and also thanks to the similar trends in the whole EU, I decided to analyse the European Union as a whole.

### 3.1.1. Social factors

**Ageing population -** The population in the EU is ageing because of a lower birth rate and higher life expectancy. The following chart displays an increase in all EU countries from 2009 to 2019.

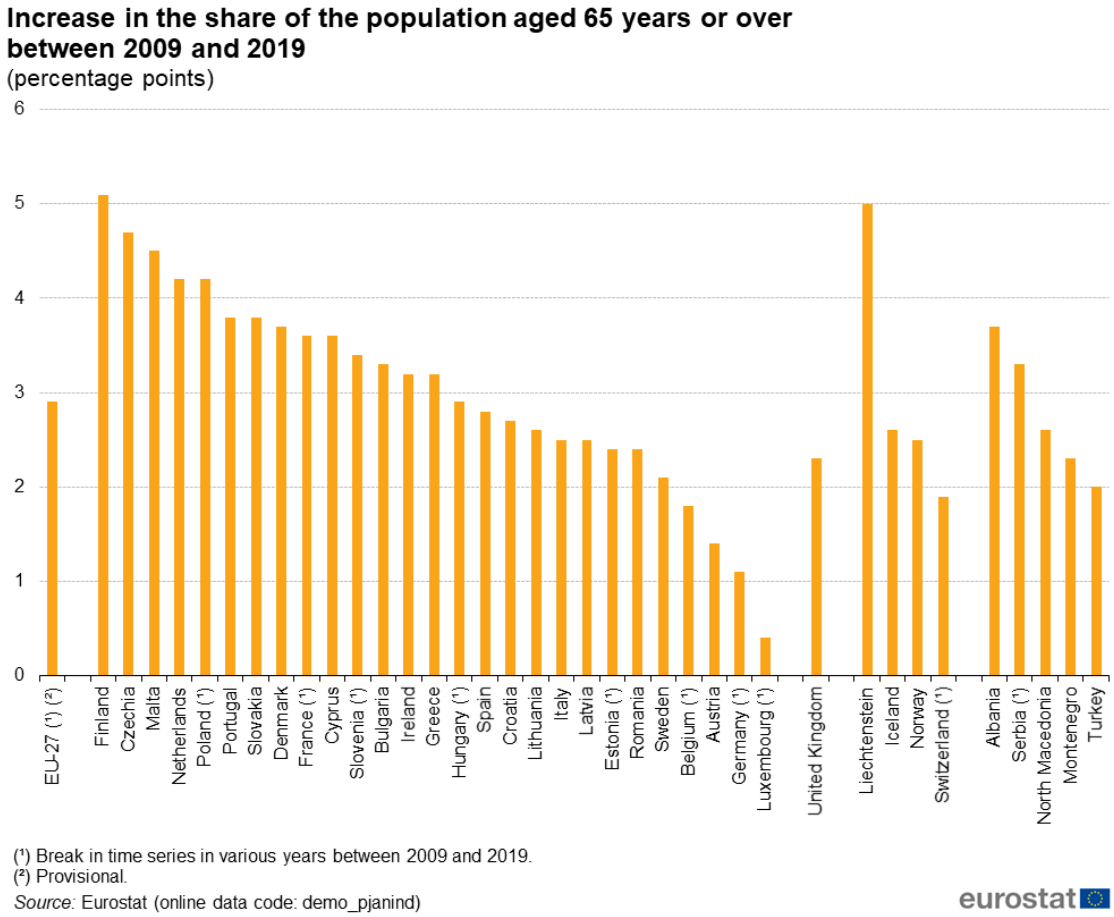
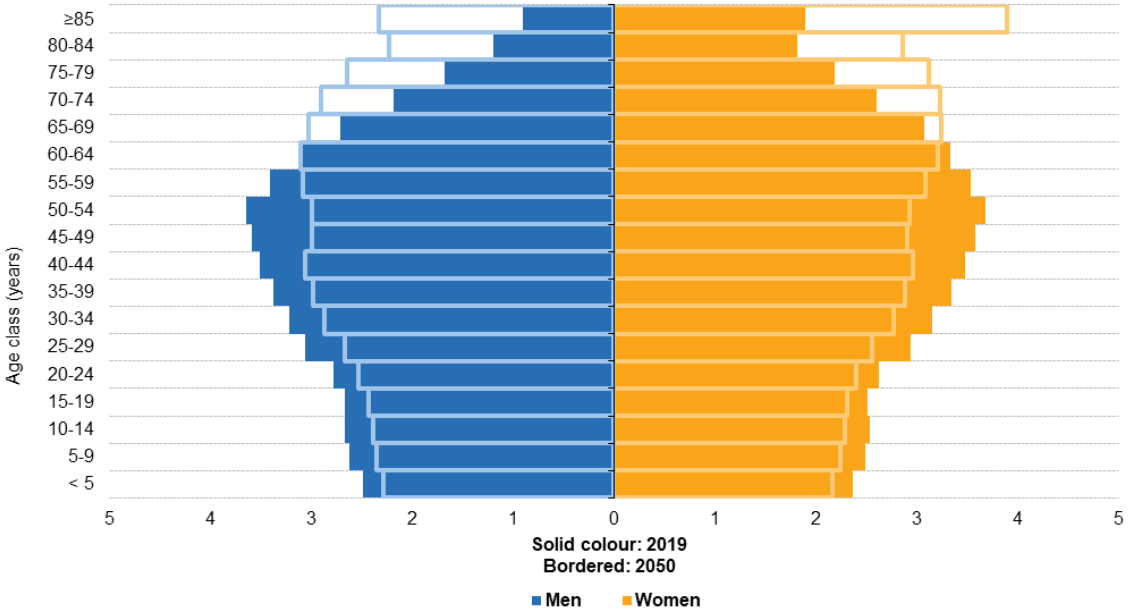



***Figure 5: Increase of share of the population aged over 64 years between 2009 and 2019*** *(Source Eurostat)*

And this trend is probably going to continue also in the future as the estimate of population pyramid in 2050 by Eurostat shows in the following graph. The growth in the Czech Republic is second highest among all member countries.

**Population pyramids, EU-27, 2019 and 2050**
(% share of total population)




Note: all data as of 1 January. 2019: estimates and provisional. 2050: population according to the 2019 projections, baseline variant (EUROPOP2019).
*Source*: Eurostat (online data codes: demo_pjangroup and proj_19np)

eurostat

We can predict higher demand for new elevators in residential and public buildings, as well as a growing market of maintenance and repairs from this factor.

**Urbanisation –** Because of changes in lifestyle, the percentage of the world population living in urban areas is increasing significantly since the 19$^{th}$ century (Ritchie, Roser, 2018). For European Union as a whole, as well as the Czech Republic, we have had data since 1950, from the projection in World Urbanization Prospects by United Nations and we expect the trend to continue.

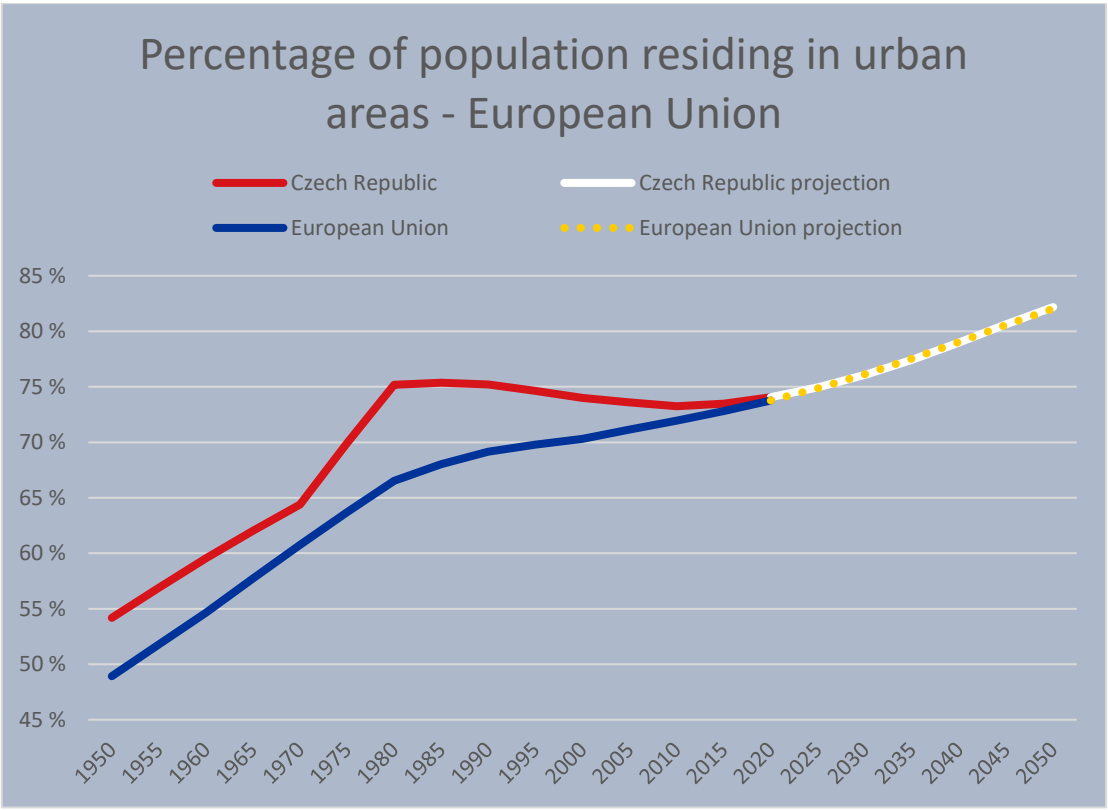



***Figure 6: Percentage of population residing in urban areas in EU and CZ*** *(Source: own work based on data from: United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision.)*

We can expect growing demand for elevators and connected services as a consequence of continuing urbanisation and higher density of population in cities, which usually leads to building taller buildings.

### 3.1.2. Legal factors

**Safety regulations and requirements** – according to the Directive 2014/33/EU we can see that safety requirements for elevators are high. From designing of particular components, taking into account the requirements of the norm, ensuring manufacturing processes, quality control, to documentation in accordance with the norm. (Directive 2014/33/EU, 2014)

As a result of this directive, we see the impact of the requirements also in the Czech environment, by implementation the requirements into the ČSN norms about elevators.

**Standardisation of requirements, interconnecting of markets by the economic union** - the Directive 2014/33/EU is ensuring harmonisation of requirements in member states

of EU, as well as ensuring free movement of products that meet requirements of this directive. (Directive 2014/33/EU, 2014)

**Safety checkups** - the owner of the elevator is obliged to check basically the functionality and safety of equipment every 14 days. (ČSN 27 4002, 2018)

**Regular safety inspections** - according to the norms different inspections are prescribed for each elevator. There are three types of inspections in the Czech Republic:

1. The smallest but most frequent inspections with frequency from 2 to 6 months depending on the age and usage of the elevator. Those inspections can be executed by a certified employee of a service company. (ČSN 27 4002, 2018)

   ***Table 1: Regular safety inspections*** *(Source: own work based on ČSN 27 4002, 2018)*

| | For public usage | For private usage |
|---|---|---|
| elevators approved before 1. 4. 1999 | Each 2 months | Each 3 months |
| elevators approved after 1. 4. 1999 | Each 3 months | Each 4 months |

2. Bigger inspections with frequency once in 3 years for passenger elevators and once in 6 years for freight elevators without passengers. Also, those inspections can be executed by a certified employee of a service company. (ČSN 27 4007, 2014)
3. Independent inspections – they are done by independent inspection authorities. The first is after 9 years after approving the elevator, the next are each 6 years. (ČSN 27 4007, 2014)

We can expect stable demand of services on the market from the demand of current requirements by norms, and evolution of requirements. This market is non-seasonal and with very low sensitivity to economic cycles.

### 3.1.3. Economic factors

**Growth of construction of buildings sector** – growing speed of construction is a positive factor not only for the production of new elevators but also for growing maintenance base.

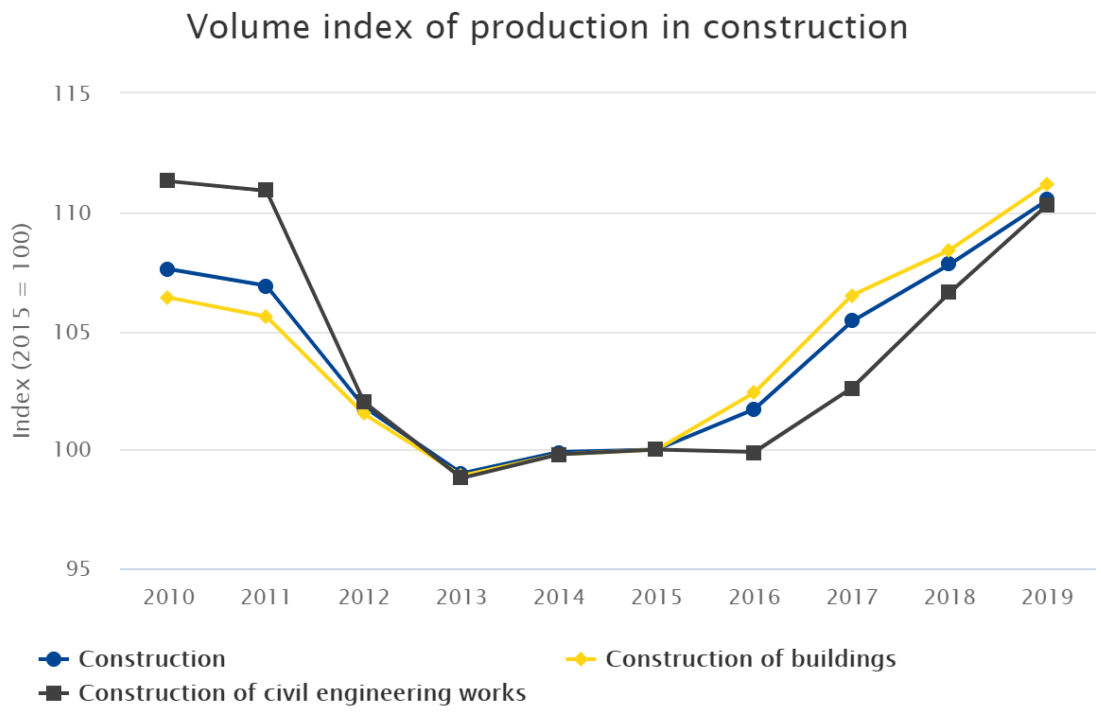



***Figure 7: Evolution of construction market*** *(Source: European Construction Sector Observatory, European Commission, 2020)*

**Unemployment** – the unemployment rate is a factor that can strongly influence the industry because when the unemployment rate is very low, it is very hard to find new employees. In the production of new equipment, the companies are successfully improving productivity by empowering new technologies. In maintenance services, the productivity was improved by more reliable solutions, faster diagnostics, and modular design for faster and easier repairment. On the other hand, installation and modernisation are activities, where increasing productivity without some trade-offs for customers like longer reconstruction is much more difficult.

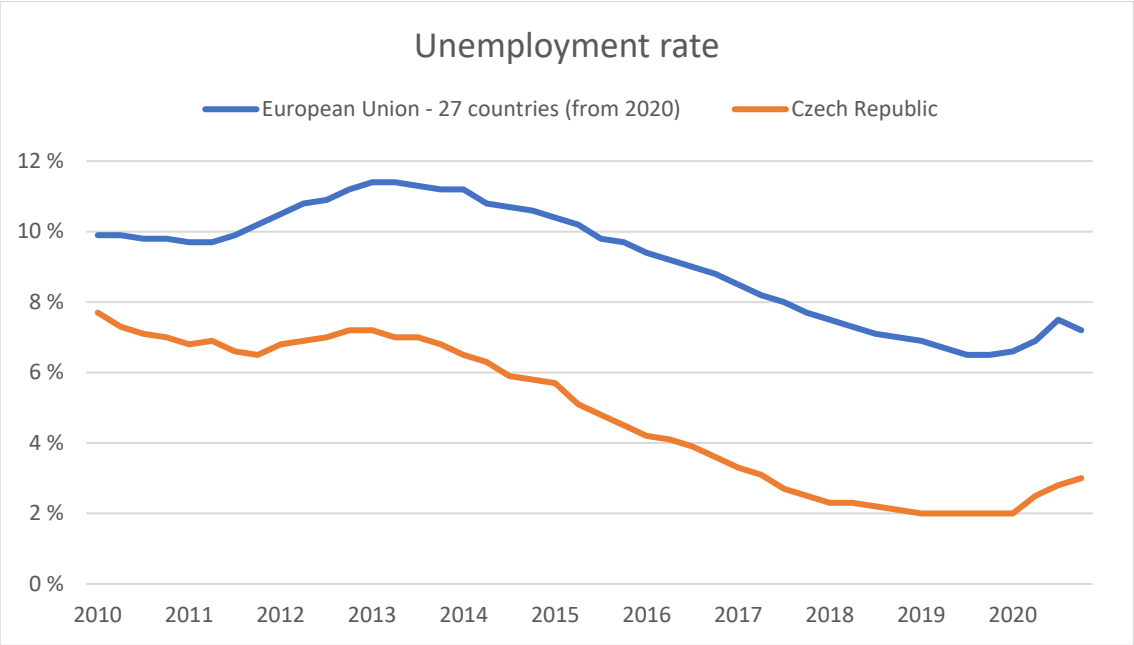



***Figure 8: Evolution of unemployment rate in EU and CZ***
*(Source: own work based on data from: Eurostat [une_rt_q])*

In the figure above, we can see that unemployment rate in the Czech Republic is very low, and we have to count on the risk of difficulties to find employees. On the contrary, the EU as a whole has a higher unemployment rate, and we can expect that the hiring abroad should be easier.

### 3.1.4. Political factors

**Support of energy efficiency and sustainability** – EU is supporting energy-efficient buildings (Energy Performance of Buildings Directive) as well as efficient electrical devices (Energy Efficiency Directive). As a result, the Czech Republic is following the same trend and motivates subjects into investments in more environmentally friendly products by subsidies and incentives.

**Tariffs** – because of some protectionism tendencies, we must count that tariffs can be imposed among the European Single Market and other countries.

### 3.1.5. Technological factors

**Internet of things** – means the network of connected objects, which are able to monitor the environment or control devices. (Lai et al., 2018) The IoT is widespread from smart homes, healthcare, as a part of Industry 4.0, smart cities, environmental monitoring to

intelligent buildings. We can see the impact of IoT on the elevator industry from two angles.

The first one is as a part of intelligent buildings where the most common objectives are energy optimisation, easier building management, or improving the comfort of users. (Daissaouia et al., 2020) With the growing popularity of intelligent buildings, we can expect growing demand for elevators that are able to be integrated into intelligent systems.

The second field where the IoT is influencing the elevator business is as a tool for delivering better services by the company. The IoT has the potential to change products and services significantly. In the context of the elevator industry, we can see a potential in the following aspects.

Real-time monitoring of devices can improve reaction time when maintenance is necessary because the solution to the problem can start even before the customer or user finds out a fault. In some cases, the monitoring can save logistic costs because the expected necessary spare parts can be delivered with the first maintenance visit. Predictive maintenance is a technique of estimating the time when the repair will be necessary. That can reduce the number of failures, save costs when preventing bigger breakdowns, or save cost when changing almost worn-out parts during regular maintenance visits. (Lai et al., 2018)

### 3.1.6. Summary of SLEPT analysis

In short, because of factors and trends mainly from social and legal categories, we can expect the growing demand for new elevators as well as growing market for maintenance and repair services. In contrast we have to consider also possible growing costs of material as well as increasing personal costs and hiring expenses. We cannot also omit opportunities from technological factors, allowing us to provide better services for customers, producing better products, and increasing the effectiveness of the company.

There are individual factors evaluated either as an opportunity or as a thread in the following table.

***Table 2: Summary factors from SLEPT analysis***

| **Social factors** |
|---|

| | |
|---|---|
| Aging population | Opportunity |
| Urbanization | Opportunity |
| **Legal factors** | |
| Higher safety regulations and requirements | Opportunity |
| Standardisation of requirements, interconnecting of markets by economic union | Opportunity |
| Regular safety inspections | Opportunity |
| **Economic factors** | |
| Growth of construction of buildings sector | Opportunity |
| Unemployment | Thread |
| **Political factors** | |
| Support of energy efficiency and sustainability | Opportunity |
| Tariffs | Thread |
| **Technological factors** | |
| Internet of things | Opportunity |

## 3.2. Elevator industry

### 3.2.1. History

Although the history of elevators or hoists can be traced back to ancient Egypt, for the purpose of this thesis I will focus on history since the late modern period. I choose the most important milestones from publication by Jan Dvořák (2011).

- In 1835 inventors Frost and Strutt in Derby, England developed the first elevator with a counterweight powered by a steam engine.
- In 1846 the first hydraulic elevator using water as a hydraulic medium was installed. The elevator was controlled by valves and ropes.
- In 1853 the inventor Elisha Graves Otis introduced his safety device at New York World's Fair. It prevents a fall of an elevator even when the rope (made from hemp at the time) breaks. This started to broader the use of elevators even for passengers.

- In 1880 the electrical engineer, inventor, and industrialist Werner von Siemens introduced the first elevator powered by an electric motor at the Mannheim Trade Exhibition.
- In 1891 the inventor Harry Ward Leonard invented the system to control the speed of direct current motors. This invention allowed electric elevators to compete hydraulic in precision and the comfort of movement.

### 3.2.2. Current state

The whole market can be divided into three main pillars: new equipment, modernisation, and maintenance. (Schindler, 2020) The market of **new equipment** in the short to mid-term closely follows the trends in the construction industry. For that reason, the biggest growth in recent years has been in the Asia-Pacific region. From the long-term point of view, the growth of this pillar is driven by continuing urbanisation, increasing density of population, and therefore higher needs for vertical transportation in taller buildings. Another reason for growing demand is the ageing population, which requires elevators even at lower buildings. The last trend which is also necessary to consider is the trend of improving accessibility in city infrastructure as well as public facilities.

The second pillar: **modernisation** is less dependent on the construction business. Sometimes it's necessary to invest in modernisation because of safety requirements, low reliability, or high maintenance cost of old equipment. Other reasons for modernisation are higher comfort and higher efficiency of new equipment.

The third pillar the **maintenance** is a significant and recurring source of revenue. This segment is still growing because of the increasing number of elevators and escalators. Moreover, maintenance has countercyclical nature, because maintenance is required by safety regulations, and also customers want to maintain their equipment even during economic downturns.

It is estimated that there are several hundred companies producing new equipment and several thousand offering maintenance services on the global market. Estimation of market share of service for small and independent participants in maintenance is about 50% but a smaller part of the value. (Otis, 2021)

According to the Global Market Insights (2020), in the year 2018 the whole elevator and escalator market has value of over 93 billion USD with a compound annual growth rate of 4.5%. The number of elevators on the Czech market is estimated at 110 thousand by TZB-info.cz[1] or 134 thousand by VFA-Interlift[2].

## 3.3. Customer segments

Customer segments on the Czech market can be defined by many characteristics, for example customer type or size, or by the number of their elevators. From interviews turned out, for the purpose of this thesis will be more useful to define customers by their needs in terms of quality and complexity requirements. Instead of creating distinct categories of customers, I decided to create a scale of customers by their requirements.

**New equipment**

On one side of the scale which we can call costs focused, customers have the following characteristic. Their priority is to find a product or service which will solve the necessary needs with the lowest price. Usually, those elevators have a cheaper geared machine, which has higher energy consumption due to the lower efficiency, usually is louder, and also requires more maintenance because the oil needs to be changed in given intervals. Also, those elevators often have automatic doors only in the car and the shaft doors are manual. They are usually in residential houses represented by a housing association or direct owner.

On the other hand, there are also customers who demand premium products. Those elevators have all doors automatic including shaft doors. They also have a gearless machine with higher energy efficiency, quieter operation, and lower maintenance requirements. The gearless machine also allows energy recuperation, which is more popular among those customers. There are possible rubber belts in this category instead of standard steel ropes, allowing even quieter operation. Customers often require also glass or stainless materials for the car and shaft. That market side is often represented by customers like companies and public buildings or elevators as a part of the city's transportation system.

[1] https://www.tzb-info.cz/4571-vytah-jako-zdroj-bezpecnostnich-rizik-z-pohledu-evropskych-norem

[2] https://www.lift-components.cz/clanek/ceka-vytahove-firmy-svetla-budoucnost/

**Maintenance**

In maintenance, cost-oriented customers are used to waiting till the next day to repair. Time as well material for those repairs are usually paid extra because maintenance fees are covering only necessary activities required by norms such as inspections. Those customers usually operate its elevators in residential buildings.

On the other side of the scale, the customers require premium services. They require service availability 24 hours a day, fast reaction time, and the shortest time when the equipment is inoperable. In some cases, they require guarantees in the contract. Usually, small repairs and cheaper spare parts are covered by the price of regular maintenance. Those customers are usually hospitals, hotels, or some resident houses.

**Jobs:**

- Regular checkups - Those checkups can be made either by a service company or also by a designated person after short training (this is common in price-sensitive customers).
- Regular safety inspections – those inspections are required by norms as mentioned in chapter 3.1.2.
- Preventive maintenance of their equipment – the producer of elevator defined service plan for ensuring safety and achieving higher reliability with fewer breakdowns, higher comfort, and longer life of the equipment.
- (Fast) repair when a breakdown occurs – when the elevator breaks, customers want to repair it, the expectation varies by each customer. The time-sensitive customers expect maintenance companies from close surroundings and require 24-hour emergency service.

**Pains**

- Unreliable elevator – when an elevator is unreliable, not only that it affects the comfort of users significantly, but also operating costs are increasing by expenses for service work and spare parts.

- Expensive repairs – except the price itself, the problem can sometimes be also unpredictability of the need for repair and for that reason unexpected expenses.
- Long waiting time for repair – whether caused by waiting for spare parts or prioritisation and time management of a maintenance company.
- Loud operation of the elevator

**Gains**

- Reliable elevator without unnecessary breakdowns
- Meet the requirements of the standard – minimalising the risk
- Cost savings by repairs in optimal time
- Quiet and comfortable ride

**Summary of customer segments**

The analysis of customer segments showed, that despite the similarity of basic needs as well as similarity of solutions required by customers, we are able to distinguish between different needs among different customer segments. This fact can be seen as an opportunity for focusing on a particular segment and create the best solution for specific needs.

## 3.4. Competitors analysis

Competition in this market can be divided by size. Usually, the size also correlates with the range of offered products and services. If we look at the competition in the Czech market and categorise them by the range of the provided products and services and by the size of the company we can identify some strategic groups.

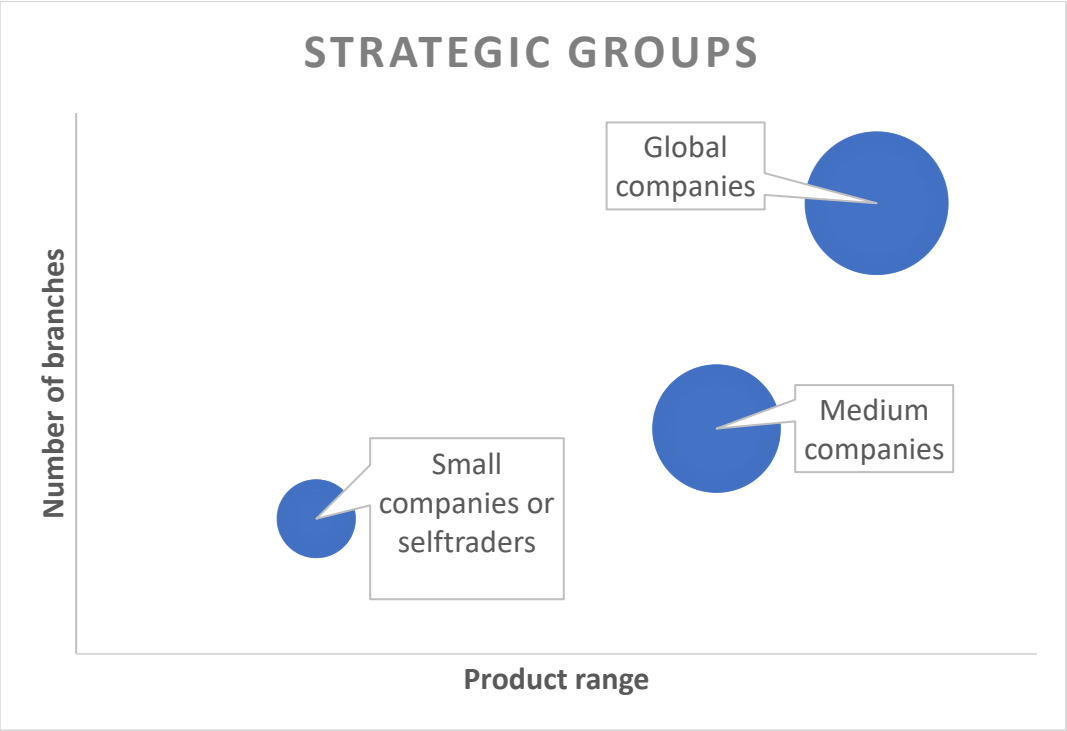



***Figure 9: Strategic groups on the Czech elevator industry*** *(Source: own work)*

### 3.4.1. Big global players

The first category of competitors consists of big global companies. Those companies are manufacturing, installing, and maintaining elevators in many countries. Their product range is from the smallest elevators to high-rise and high-speed elevators and escalators. Their facilities are often distributed all around the world and each facility usually focuses on a certain product range. (Otis, 2021, p. 8)

The advantages of those companies are:

1) **Range of products** – because the number of offered products is broad, they can satisfy different needs of customers by different products.
2) **Latest technology** – because those companies are technology leaders, they can offer advantages thanks to modern technology. Particular areas of energy-efficient technology including regeneration and destination control systems for big buildings are important for high-end market. These advantages are less important in low and mid-range market segment.
3) **Stability** – because of the long history and high reputation overall, customers can have higher certainty, that the delivered services should meet at least minimal standards.

4) **Global operation** –having multiple elevator units in different regions and having one supplier for all branches can be an important aspect for customers.

Here is a brief description of major global companies. Those companies are commonly known as the biggest. Those companies are mentioned in the annual report of the biggest company (Otis, 2021, p. 8), and as well as consistent with data published in annual reports of all mentioned companies. The fourth also often mentioned company, the TK Elevator, I omitted due to the limited activity in the Czech Republic.

## Otis

Otis Elevator Company was founded in 1853 and the invention of safety mechanism was a major improvement in elevator design allowing their wider spread. In 1899 Otis participated in the production of the first escalator and in 1910 and 1911 bought patent rights related to escalators. Even the word "Escalator" was registered trademark till 1950s. In 2000 company introduced Gen2 machine room-less elevator. From 1976 to 2020 Otis was owned by conglomerate United Technologies Corporation. (Graham, 2020) Since 2020 it has been listed on New York Stock Exchange. According to the annual report, in 2020 the company had more than 69 thousand employees, 12.8 billion USD in revenue, and an operating profit of 1.9 billion USD. New equipment makes 42% of net sales and 17% of operating profit. Services make 58% of net sales and 83% of operating profit. (Otis, 2021) According to the advertising materials, Otis has 17 service branches in the Czech Republic and more than 250 service technicians together with the Slovak subsidiary. (Otis, 2018)

## Schindler

Schindler was founded in 1874 in Switzerland as a machine manufacturer. The first elevator was produced in 1892. In 1915 they started producing their own motors and in 1936 they installed their first escalator. In 1979 Schindler acquired Haughton Elevator and entered the United States. In 1982 they entered the Canadian market by the acquisition of Armor Elevator. In 1989 the big acquisition was the elevator and escalator division of Westinghouse Electric (America part). In 2011 they introduced their own machine room-less traction elevator. According to an annual report in 2021 they have

over 66 thousand employees, revenue 10.64 billion CHF and EBIT 1.032 billion CHF. (Schindler, 2021) According to the available information Schindler has 7 service branches in the Czech Republic and more than 150 service technicians. (Schindler CZ, 2021)

**KONE**

KONE was founded in Finland in 1910 as a machine repair shop in Helsinki, first elevators were produced in 1918. In 1920 they produced 200 elevators. Over the history, the company acquired significant companies which were sometimes even bigger than KONE itself: in 1968 they bought the elevator business of ASEA which was strong in Sweden, Norway, and Denmark. The next major acquisition was the European elevator subsidiary of Westinghouse also bigger than KONE at that time. During the 90's company decided to focus only on the elevator and escalator market and decided to divest other businesses for example cranes. The last major acquisition was Montgomery Elevator Company in 1994. In 1996 KONE, as the first one of the big 3 companies, created a new solution of machine - room-less elevator. (KONE, 2019) According to the 2019 annual report, the company has about 60 thousand employees and about half a million customers. Sales volume in 2019 was 9.98 billion EUR and EBIT 1.19 billion EUR. New equipment makes 53%, maintenance 32%, and modernisation 15% of sales. In 2020 the KONE communicated their intent to buy the elevator and escalator division of fourth biggest player Thyssenkrupp (Kone, 2020a), but later (Kone, 2020b) they decided to withdraw from the discussion. According to the website, Kone has 6 service branches in the Czech Republic. (KONE a.s., 2021)

### 3.4.2. The typical business model of big players

If I look at those companies from the point of view of general competitive strategies, they are in the upper half thanks to the industrywide scope and by their presentation. They seemed to use differentiation as a source of their competitive advantages, although thanks to their size they can use some advantages of economy of scale and hence in some products also as cost leaders. For example, those companies are particularly dominant in the high-speed elevators because they can transfer their expertise from other markets to the Czech market at low cost, while investments into high-speed elevators for medium

companies will be difficult due to the high complexity and small demand in the Czech Republic for such a product.

Based on the analysis of global companies I summarised typical characteristics and created a typical business model of a big player. The following Business Model Canvas is further described in the following subchapters.

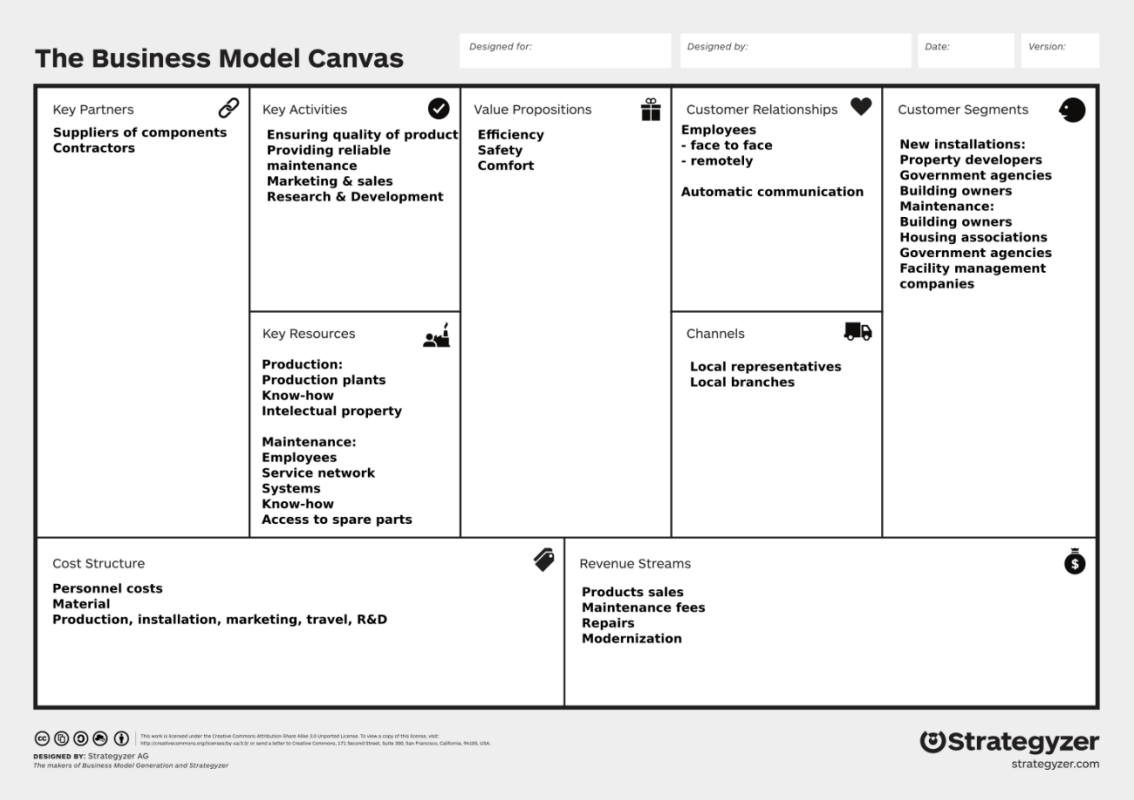



***Figure 10: Business Model Canvas of big three companies*** *(Source of the template: Strategyzer AG)*

1. **Customer segments**

   Based on the aggregated data from publicly available documents as annual reports, we can distinguish those customer segments, which have similar needs:

   a) **New installations**

      a. Property developers

      b. Government agencies

      c. Building owners

   b) **Maintenance**

      a. Building owners

      b. Housing associations

c. Government agencies
d. Facility management companies

2. **Value propositions**

In the new installations segment, the product is fulfilling a need for vertical transportation, efficiency, comfort, and safety. All three companies cover the whole spectrum of product segments from low-rise elevators to high-speed, high-rise elevators and also escalators and moving walkways.

The segment of maintenance is fulfilling by preventive maintenance and repairs customers needs for safe and reliable operation, but also requirements for inspections. All mentioned companies provide maintenance not only for their own products but also for other ones.

3. **Channels**

For new equipment, the channels are local representatives who will communicate with customers or potential customers. The company experts are often able to help architects or civil engineers by providing documentation or consultancy services for seamless cooperation. In case of installation, the customer can be served either by internal employees or also by external contractors. For maintenance, the distribution channels are networks of local branches and field technicians, or also contractors, when the maintenance would be inefficient because of the absence of a local branch. Both sides of business new equipment and maintenance support each other. It is mentioned, in Kone's annual review in 2020, that 90% of units are maintained even after the installation. Also, it can help if the customer considering a new elevator already has a positive experience with maintenance services.

4. **Customer relationships**

The most common points of interactions are employees providing services. The interaction can be either face to face, or remote via phone or electronic communication. Also as a tool for building customer relationships, we can consider tools for automatic communication.

5. **Revenue streams**

   In the case of new equipment, the customer pays for the device in one or more partial payments. Installation or maintenance may or may not be included in the price. Maintenance provides a regular revenue source. Other revenue sources are modernisation or bigger repairs which are not covered by regular maintenance contracts (it depends on the specific maintenance package or individual contract).

6. **Key resources**

   The key resources for the new equipment are production plants, know-how, patents, and employees. The key resources for maintenance are employees, local branches, systems, know-how, or access to spare parts.

7. **Key activities**

   Key activities are producing quality products, providing reliable and quality maintenance and repairs. We cannot omit marketing and sales activities in selling new installations, and acquiring new units to a maintenance base. From a long-term perspective research and development activities are very important for keeping track of the innovations of competitors.

8. **Key partnerships**

   Important partnerships are with suppliers of products and services or subcontractors. For example, KONE in Annual review 2020 states that cooperates with two thousand suppliers of components and thousands of installation suppliers. Otis, according to 2020 Annual report, has several thousand suppliers and approximately 500 key suppliers for ensuring manufacturing. They mention that key components for manufacturing and maintenance and repairs are often available from more suppliers for reduction of the risk.

9. **Cost structure**

   The structure of costs will vary strongly for the production of new equipment and for maintenance. The production requires a lot of material as well as production facilities.

The maintenance on the other hand will have the highest share of personnel costs followed by costs for mobility. Schindler is the only company of which I was able to find costs structure in the annual report from 2020. Personnel costs make up 38% from revenue and material 28%. Other operating costs as production, installation, administration, marketing, training, travelling, equipment, research and development consume about 20% of revenue. We can see, from the same document that 59% of employees were in the installation and maintenance business area, 34% in engineering, sales, and administration, and only 7% in the production area.

### 3.4.3. Locations of branches of global players in the Czech Republic

Because those three companies are very significant in the Czech market, I decided to look at the distribution of their branches in this country. I included the service branches mentioned in the official materials I have found. Otis has 17 branches (Otis, 2018). Schindler states 7 branches. (Schindler CZ, 2021) Kone states 6 branches. (KONE a.s., 2021) In the following figure, each circle represents a municipality with a service branch and the size represents the number of present companies. The colours represent specific companies - Otis is blue, Schindler is red, and Kone is green.

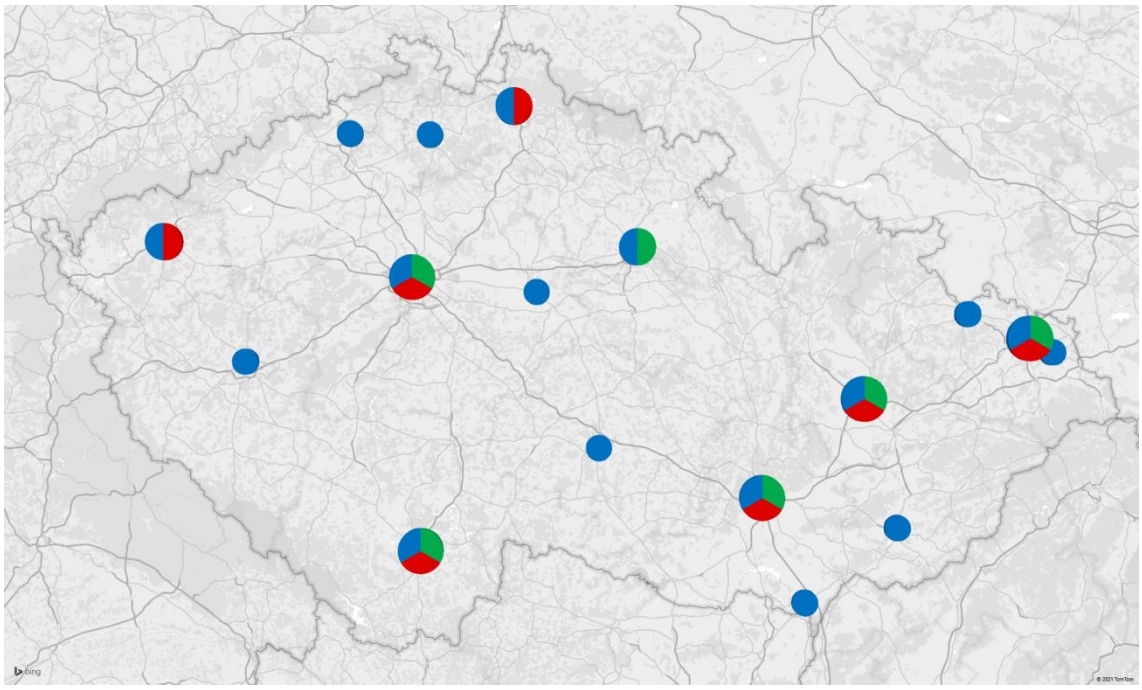


***Figure 11: Distribution of service branches of big companies:***
*Blue – Otis, Red – Schindler, Green – Kone*
*(Source: own work based on the data from the companies)*

### 3.4.4. Medium companies

Medium-sized companies usually operate in smaller regions, especially their maintenance part of the business. Only a few companies from this segment produce their own escalators. Strategies of those companies are very diverse, some focus on the production of most frequently used elevators in large numbers, while others focus on the production of atypical elevators (sometimes even as a subcontractor for a global company). Some companies focus only on production and cooperate with others which on the other hand focus only on maintenance.

Examples of those companies are:

**Výtahy Vaněrka**[3] **-** This company was founded in 1993. The company produces its own elevators as well as provides service on more than 4.500 units.

[3] https://www.vytahy-vanerka.cz/

**MSV Liberec**[4] **-** This company was founded in 1994. Besides producing its own passenger as well freight elevators, this company provides service on more than 2.100 units from four branches.

Those companies are often owned by the family, management, founders, or by the combination of those.

The common advantages of those companies can be divided into few categories.

1) **Individualisation** - higher possibility for individualisation of products thanks to the lower production volume, production in only one or few facilities, and closer relationship with customers.
2) **Breakdown response time** – thanks to the narrow region of operation and close branch, those companies can offer shorter time response in case of breakdown of equipment.
3) **Cheaper products** – thanks to the higher competition in this segment, especially the services are cheaper.

I led an interview with one medium company in our region. They are producing their own elevators and also providing maintenance services in the region and few other cities by their branches.

They perceive flexibility as their biggest competitive advantage. They started as a producer of standardised elevators. Because of strong competition in this segment, mainly by big companies which can offer lower prices of new equipment, thanks to the economy of scale, and usually also because of more expensive maintenance afterward, they decided to broader the production. Now besides the production of standardised elevators, where the margins are low, the company is successfully producing atypic elevators, which they sometimes produce even for other companies including one global company.

In maintenance, they see the following competitive advantages:

- Nonstop availability - they provide services 24 hours per day including call center and emergency field technicians.

[4] http://msv-lbc.cz/

- Quick service responses - thanks to the optimal locations of branches, and cooperation among technicians, they have a short time to repairs.
- Reliability - thanks to the team organisation, the operation is ensured even when a technician is ill or on vacation.
- Spare parts – thanks to the big stock and great supplier relationships, they are able to provide spare parts even for older elevators.

  Medium companies are strong thanks to their flexibility, especially in the segment of atypical elevators, where big companies cannot use their unified series.

### 3.4.5. The business model canvas of medium company

Based on the interview I composed a business model canvas of a small company. Although it is unique by a few aspects, we can also expect other medium companies to share the same substantial characteristics.

#### 1. Customer segments

Based on the interview, we can distinguish the following customer segments:

a) **New installations**
   a. Property developers
   b. Government agencies
   c. Building owners

b) **Maintenance**
   a. Building owners
   b. Housing associations
   c. Government agencies
   d. Facility management companies

#### 2. Value propositions

In the new installations segment, the product fulfils a need for vertical transportation, efficiency, comfort, and safety. Opposed to big companies, it can satisfy specific needs much easier, for example an atypical elevator for a historic building.

In the segment of maintenance, the company offers safety inspections, preventive maintenance, and also repairs. Because the company operates in a relatively narrow region, it can offer a fast reaction when it is needed.

### 3. Channels

For new equipment, the channels are sales representatives who communicate with customers or potential customers. The demand comes thanks to the reputation or thanks to the marketing on online media and regional printed newspapers. Online portals are another important channel for new equipment with private as well as public tenders. The last channel is the marketing focused on building awareness not only among potential users or owners of buildings but also among architects and planners.

For maintenance, the main distribution channel is existing customers of their own products. The positive experience with service works very well. Customers with more units often demand maintenance also for some others when they see the quality of the services on one elevator.

### 4. Customer relationships

The relationships are maintained on two levels, separately for new units, and for maintenance. When a customer demands a new elevator, they mostly interact with a sales representative, who works as a mediator between the customer and the rest of the company – production, installation, or back-office. Another intensive but the short-term relationship is with a leader of the installation because this person is in touch with customers during the installation.

In maintenance, the relationships are two: first with maintenance leader for the region, who communicates with customers, processes demands and prepares offers, and the field technicians as mechanics and inspectors, who are in face-to-face contact with the customer, or with a person who is responsible for the building.

### 5. Revenue streams

In the case of new equipment, the customer pays for the device in more partial payments, for reducing the risk and improving the cash flow. Maintenance provides a regular revenue stream - the payments are quarterly most often. Another revenue stream is modernisation or bigger repairs not covered by maintenance contracts.

## 6. Key resources

For new equipment, the key resources are the production plant, know-how, utility models, and employees. For maintenance, the key resources are employees, local shops, know-how, reputation, and access to spare parts.

## 7. Key activities

Key activities are to produce quality products and provide reliable and quality maintenance and repairs, also marketing and sales activities in selling new installations but also to acquire new units to a maintenance base. From a long-term perspective research and development activities are very important for keeping track of innovations of competitors. Those innovations should aim for increasing the efficiency of operation and quality of the services.

## 8. Key partnerships

Important partnerships are with suppliers of products and services or subcontractors. As suppliers for the substantial parts of the elevator are direct producers or importers, some spare parts are also supplied by wholesale distributors. For the production a partnership with the paint shop is important for outsourcing paintings of all bigger parts. On the other hand, the supplies of raw material, or common construction or wiring material are covered by multiple suppliers and the purchaser chooses the best current option.

## 9. Cost structure

Although the highest part of the cost is for employees, it is followed by resources for new elevators. Also mobility including cars and trucks means significant costs and there are also some other costs for their operation. On the other hand, thanks

to the investments into own building in the past, the company rents only warehouse and commercial space for regional branches.

### 3.4.6. Summary of competition

The analysis of competition showed different groups of competitors including their typical competitive advantages and their sources. That is also the reason why certain industry areas can be dominated by one or the other group of competitors, for example medium companies in atypic elevators and global ones in high-speed elevators.

## 3.5. SWOT analysis

Based on the previous analysis, I created a summary in the form of a SWOT analysis. The opportunities and threads spring from previous parts as SLEPT, and analysis of competitors and customers. The strengths and weaknesses of the new company are understand as expected or necessary springing from specifics of small companies.

**Strengths**

- Flexibility – because the company will start from scratch, it will not bring a load of old habits and processes
- Higher efficiency thanks to the empowering modern technologies

**Weaknesses**

- Only a few branches – inability to use the economy of scale thanks to the large network of branches
- Absence of own production – inability to use synergies thanks to own production and installation

**Opportunities**

- Growing market thanks to the ageing population and urbanisation
- Stable market thanks to the safety regulations and requirements such as regular inspections
- Support of energy efficiency and sustainability (although this factor is opportunity mainly for production of new equipment)

- Prepare special offers for a particular customer segment
- Provide service in the best location
- Create no-frills service
- Cooperate with big companies and provide them services in locations where they do not have their own branch
- Cooperate with medium companies which focus only on production and outsource services like maintenance and repairs
- Internet of things for improving customer experience and improve efficiency

**Threads**

- Change of strategies of competitors
- New entrants
- Lack of skilled people on the job market
- Obstacles with supplies of spare parts for some brands of elevators

## Evaluation of factors

***Table 3: Evaluation of SWOT factors***

| Name | Probability | Power | Score |
|---|---|---|---|
| **Strengths** | | | |
| Higher efficiency | 3 | 5 | 15 |
| Flexibility | 5 | 2 | 10 |
| **Weaknesses** | | | |
| Only a few branches | 5 | 3 | 15 |
| Absence of own production | 5 | 3 | 15 |
| **Opportunities** | | | |
| Internet of things | 5 | 4 | 20 |
| Provide service in the best location | 4 | 4 | 16 |
| Stable market | 5 | 3 | 15 |
| Create no-frills service | 4 | 3 | 12 |
| Cooperate with medium companies | 4 | 3 | 12 |

| | | | |
|---|---|---|---|
| Growing market | 5 | 2 | 10 |
| Special offers for a particular customer segment | 5 | 2 | 10 |
| Cooperate with big companies | 2 | 4 | 8 |
| Support of energy efficiency and sustainability | 5 | 1 | 5 |
| **Threads** | | | |
| Change of strategies of competitors | 4 | 4 | 16 |
| Obstacles with supplies of spare parts | 2 | 5 | 10 |
| New entrants | 2 | 4 | 8 |
| Lack of skilled people on the job market | 4 | 4 | 8 |

# 4. Proposal

This chapter builds on outcomes from the analytical part. In this paragraph, I summarise important findings from the analytical part, which are underlying for the proposal. As an opportunity we can consider the expected growth of the market with new equipment resulting to more elevators in operation and, therefore higher demand for maintenance and repair services. Stable demand for services due to the requirements of the norms is reducing risk. Opportunities resulting from the use of new technologies, especially the predictive maintenance for improving reliability and saving costs. Existing competitors are often focusing on the whole market, and some customer segments can profit from focused services. Threads that can negatively influence the company are unemployment rate in the Czech Republic and difficulties with hiring, and changes in competitor's strategies. The expected strengths are flexibility and higher efficiency, as well as weaknesses of absence many branches and narrow offer, are proposed on the basis of competitors.

The proposal part consists of outlining the vision, mission, and goal for a new company. The following chapter is about the strategy which is designed according to the situation on the market and its elaboration in a form of Business Model Canvas. The last part of it is about the evaluation of the proposal and outlining the possible future steps.

## 4.1. Strategy

From the generic strategies, I consider the focus strategy as the best one, because the industrywide strategies as differentiation and cost leadership are very hard or maybe even impossible for a small and new company.

The chosen strategy will be cost focus, with a focus on the maintenance segment. I chose the maintenance segment because it has significantly higher margins and at the same time lower complexity as well as market entrance barriers than in producing new equipment. Also, the fixed costs are much lower, because whereas considering producing new equipment the producing facilities and production machines are expensive, for providing maintenance the necessary shops and storage facilities and tools with spare parts are significantly cheaper. On the other hand, the variable costs are higher in maintenance. Because it is a service business, it is necessary to have enough employees for inspections and maintenance.

I suggest focusing on the following competitive advantages:

- Efficiency and great cost-benefit ratio
- Fast repairs thanks to the optimal distribution of branches
- High-reliability thanks to the predictive maintenance

## 4.2. Vision, mission, goal, and strategy of a new company

The vision of a new company is a stable elevator maintenance company with a focus on effectiveness and providing the best value for an affordable price. The mission is to provide user-friendly services with the best possible cost-benefit ratio thanks to the efficiency and the use of modern technologies. The goal is to build a service portfolio of 1.000 units in three regions of the Czech Republic within 4 years.

## 4.3. Industry segment

As the best option, I prefer focusing on the industry segment of moderately demanding customers and avoiding competing in the lower part of the market where is a big pressure on the price even at the cost of reducing quality and on the other hand, avoiding the high-end segment where expensive guarantees are required and also customisation of processes due to the uniqueness of those elevators.

**Geographic location**

I propose to start providing maintenance services for small geographical areas and grow organically. For choosing optimal locations of branches, I used a list of municipalities with over 10.000 inhabitants (ČSÚ, 2021) and combined it with the location of service branches of big competitors. If we take into consideration also requirement of the ČSN 27 4002 for ensuring emergency rescue within one hour, and the fact that customers often want to outsource it to the service company, we can project the radius in which the branch can offer their services.

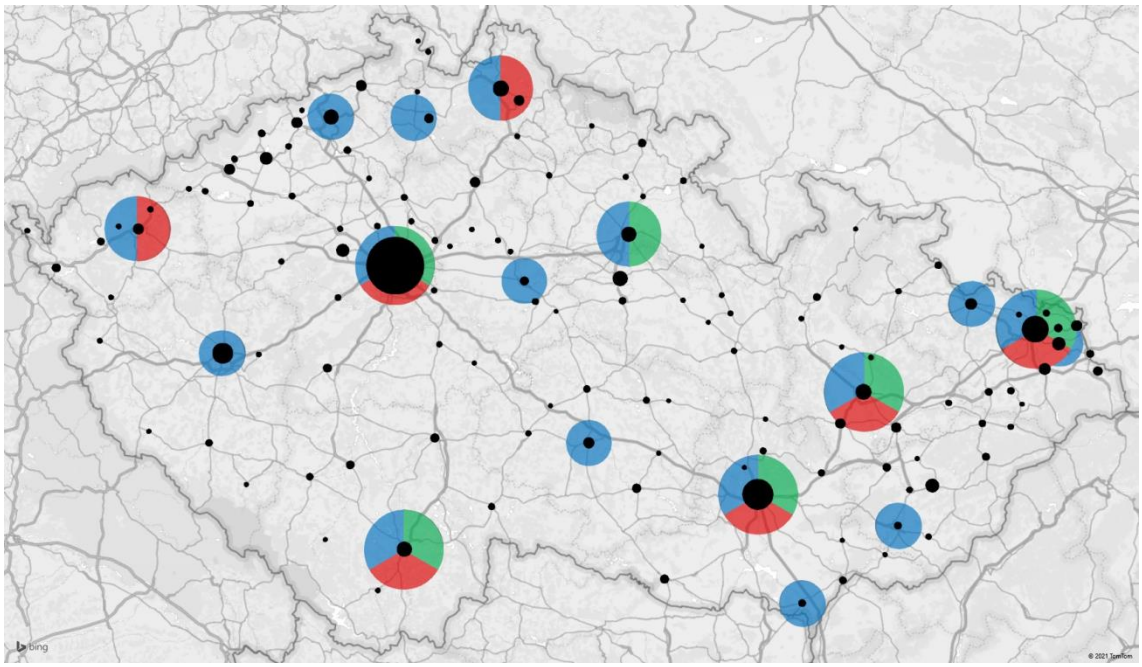


***Figure 12: Municipalities over 10,000 inhabitants and presence of competitors***
*(Source: own work based on data from ČSÚ and competitors materials)*

After this rough selection of possible locations, it would be useful to do detailed market research, because there are many smaller companies that sometimes even do not have a website. Also, it is worth mentioning that the number of inhabitants does not have to always correlate with the number of elevators.

## 4.4. Business Model Canvas

Based on the proposed vision, mission, goal, and strategy of a new company, I designed the following Business Model Canvas which is described in more detail in the following chapters.

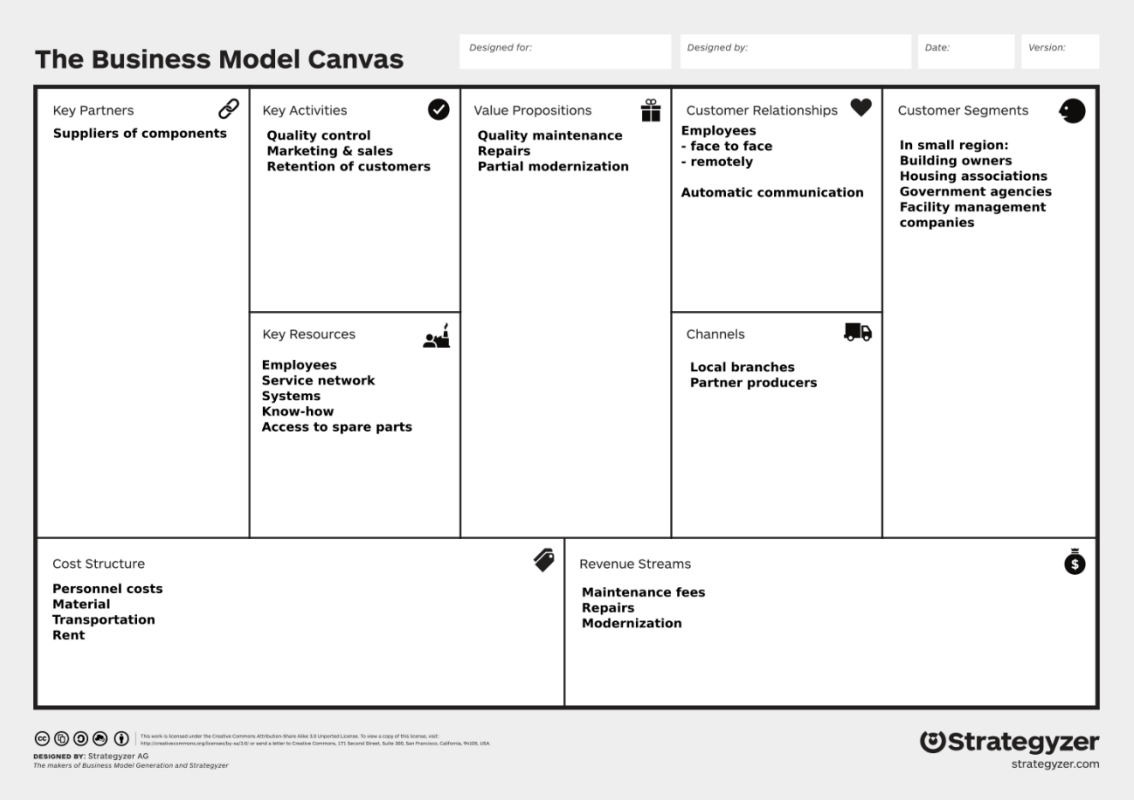



***Figure 13: Business model canvas of new company*** *(Source: based on a template by Strategyzer AG)*

### 1. Customer segments

As the best option I consider focusing on the geographic location of potential customers. The location is important for several reasons. First, the distance of the customer's elevator from the local branch influences the costs due to the travelling expenses and time spent to travel. The second reason is that the growing distance means the growing difficulty of ensuring quick time response in case of breakdown.

From customer segments, as the best option, I see to focus on the middle segment. By avoiding the most sensitive segment for the price, we can have a higher margin, and also we can avoid frequent breakdowns because the elevators are often in bad technical condition in this segment. (Interview with the medium company)

To a certain extent we can eliminate the need for keeping broad stock of parts for often unique elevators by avoiding the highest segments. And also we will not have to commit contractually to a reliability guarantee.

## 2. Value propositions

The value proposition will be based on offering a great benefit-cost ratio, thanks to focusing on the middle segment with similar needs and tailoring offers for their needs. Quick response and reliability will be ensured by the proximity of the local branch.

**Offered services**

- Regular maintenance and safety inspections will ensure a safe working and long life service. This service will satisfy the following needs of the customers: regular checkups, regular safety inspections, and preventive maintenance. It will also reduce the following pains: unreliable elevator, loud operation of the elevator (to the extent of the quality maintenance, with regard to technical solution) and on the other hand, will support the following gains: reliable elevator, minimising the risk, saving costs from avoidable breakdowns, and a quiet and comfortable ride.
- Repairs when needed, or smaller modifications according to the need of the customers. For the majority of customers will be sufficient to repair the elevator the next working day, for others the company will provide 24-hour repair emergency. This satisfies the following need: a working elevator.
- Emergency rescue of trapped passengers from the elevator available 24-hours for all customers. This will satisfy the obligation of the customers required by the requirements for the elevator owner.

## 3. Channels

The first channel will be a direct acquisition of customers by representatives from local branches. The second channel will be partner companies that only produce or don’t provide maintenance services in a given location. Another channel will be the promotion via important online websites either the general ones as Firmy.cz, focused on elevators as i-vytahy.cz or focused on managing building at general as tzb-info.cz.

## 4. Customer relationships

Mainly the relationships will be based on personal relationships with employees providing services, field technicians and account managers. Automatic communication will be used only for routine tasks like invoicing.

## 5. Revenue streams

Main revenue streams will be regular payments for maintenance and inspections, paid by the elevator owner in the majority of cases, or by a producer when they outsource maintenance during the warranty period. Another source of revenue will be bigger repairs not covered by basic maintenance or modernisation.

### Pricing

The costs, and especially the personnel costs, vary significantly depending on the region. For example, I know, from the interview with an employee of the medium company, that the average wage for the same position is 15 percent higher in Prague than in a smaller town. Although the number of serviced units per one employee is the same, and the higher density of customers is compensated by more time spent in traffic jams, the price of the same service in Prague is higher.

That is the reason, why I propose the pricing to be based on the costs of the branch in the location.

## 6. Key resources

Responsible and skilled employees are the most important for providing services. But we cannot omit also systems and know-how and also access to spare parts for each brand of serviced elevators.

## 7. Key activities

Key activity will be ensuring the quality of services. I suggest broadening the service base portfolio by acquiring new customers while keeping a high retention ratio of the existing ones. Also as a key activity, we can consider increasing effectiveness of services by implementing modern approaches and technologies, for example predictive maintenance.

### 8. Key partnerships

Important partnerships will be with producers or suppliers of spare parts because access to them is necessary for providing our services. Now there are two big suppliers of parts for elevators from multiple producers in the Czech Republic, and many producers and distributors covering only a certain subsegment of the products necessary for maintenance.

### 9. Cost structure

The main costs will definitely be employees' wages. Mobility, which includes cars and fuel, toll, maintenance of cars, or driver training, will be another one. Other costs will be for spare parts (usually paid by the customer) and equipment for the maintenance. We cannot forget about costs for developing and maintaining systems for the effective operation of the company.

## 4.5. Next steps and implementation

As a next step, I recommend preparing a financial plan for the new company and elaborate the competition analysis deeply, especially the smaller companies which can have a significant market share in some regions while slight deficiencies in their services. Also, during the analysis of the location, I suggest taking into consideration also possibilities for future development.

Important will be to find the right amount of investment to the acquisition to minimise the time when the branch is loss-making. Acquiring a sufficient number of customers, respectively serviced units for achieving profitability will be important for the successful implementation of the business model. Especially from the start, this will be more difficult because of the absence of economy of scale and bearing the fixed costs by one or only a few branches.

# Conclusion

Based on the outcomes from the analytical part, I proposed a strategy for a new company. The suggested strategy is to focus on maintenance in a smaller region at first. It seems to have the lowest entry barriers while interesting margins. As an optimal, I suggest starting in a region that has a lower level of competition and a larger number of elevators in close distance. After establishing the first branch and optimisation its operation, the next step will be scaling the business.

Essential aspects of the business I covered in the form of Business Model Canvas and Value Proposition Canvas. Some sources of information, for example about the structure of the market and about other competitors, are hard to find without extensive field research. Others are easy to collect but are hard to verify, for instance whether the offered service will meet the customers' needs and how much the offer must be better to motivate customers to change their maintenance contract. Some aspects will arise after the actual start of the company, for example counter-offers of competitors, or situations on the job market in the form of difficulty to hire new employees in different locations.

Although the elevator maintenance business is regulated by many norms, in my opinion, the maintenance part can start with a modest investment and acceptable risk, and improve the offer and operation gradually.

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